

# EUROPEAN PATENT OFFICE

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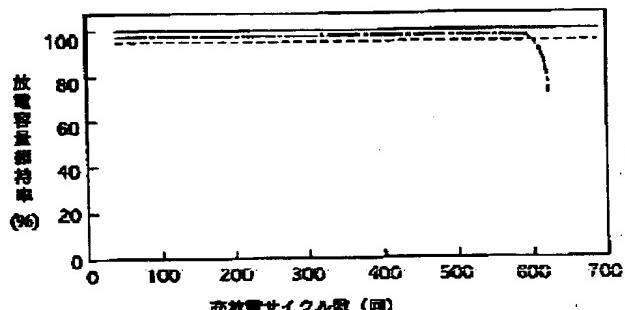
APPLICANT : TOYOTA AUTOM LOOM WORKS LTD;

INVENTOR : KAMIYA YASUNOBU;

INT.CL. : H01M 10/30 H01M 4/62

TITLE : NICKEL HYDROGEN STORAGE  
 BATTERY

— 本実施例品  
 - - - 比較例 1 品  
 - - - 比較例 2 品



ABSTRACT : PROBLEM TO BE SOLVED: To prevent the performance deterioration with the lapse of time of a nickel hydrogen secondary battery using a hydrogen storage allow powder having a composition containing aluminum in a negative electrode.

SOLUTION: In a nickel hydrogen secondary battery using a hydrogen storage alloy powder having a composition containing aluminum in a negative electrode, aluminum hydroxide or aluminate ( $xM_2O.yAl_2O_3.H_2O$ ) is added to an electrolyte or the negative electrode. Thus, the capacity deterioration with the lapse of time can be prevented, and the reason is that it is assumed that the added aluminum hydroxide or aluminate is dissolved in the electrolyte and the aluminic acid ion is present in a form such as  $Al(OH)_4(H_2O)^2-$ ,  $Al(OH)_6(H_2O)^3-$ . Therefore, the Al in the hydrogen storage alloy powder is prevented from being eluted to the alkaline electrolyte in the form of aluminic acid ion, and the capacity deterioration with the lapse of time by the pulverization progress or reduction in reactivity by the lack of Al in the hydrogen storage alloy powder can be prevented.

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